APPLESOFT PROGRAM OPTIMIZER

AOPT is a 2.2K machine-language utility that will substantially reduce the size of an Applesoft program without affecting the operation of the program. AOPT automatically shortens variable names, removes remarks, removes unreferenced lines, appends short lines together, removes extra colons, and renumbers line numbers. AOPT will convert a verbose, well-documented, development version of a program into a memory-efficient, more-secure, production version of the same program.

Hardware: APPLE II or APPLE II PLUS
Language card is optional
Memory: 16K required
Language: ROM or RAM APPLESOFT
DOS: Compatible with any version
Includes: Diskette or Tape & User Manual
Price: $20.00
From:

sensible software
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APPLESOFT-Basic Optimization Library

The Optimization Library has been condensed into a single assembly-language utility program that can be loaded into any Apple system with 16K or more RAM memory. This optimization program, AOPT, performs two functions:

"&V" -- compresses variables and prints variable cross-reference listing

"&R" -- removes remarks, renumbers from 1 by 1, deletes unreferenced lines, and squeezes multiple short lines into long lines

To load:

```
>FP (to turn on Applesoft)
]BRUN AOPT (for disk systems)
   or
]CALL -155 (for tape systems)
*3010.3FFFR 3010G (for tape systems)
```

Notes: AOPT is loaded into locations $3010 to $3FFF and then relocated up to the highest available free RAM memory in your system when it is loaded. Any Applesoft program in memory when AOPT is loaded will be deleted.

To use:

```
]LOAD (your Applesoft program)
]&V (to optimize variables)
]&R (to optimize everything else)
]SAVE (your Applesoft program)
```

Notes: AOPT does not need to be reloaded between optimizations unless the HIMEM pointer is changed (by HIMEM:, FP, MAXFILES, etc.). You may load, optimize, save, and run several programs at a time.

Options:

1) To suppress line numbers on the "&V" variable cross-reference listing, issue the following pokes after AOPT is loaded:

```
]H= PEEK(115) + 256 * PEEK(116)
]POKE H+1370, 234: POKE H+1371, 234: POKE H+1372, 234
```

2) To specify a different starting line number for the "&R" option, issue the following pokes after AOPT is loaded:

```
]H= PEEK(115) + 256 * PEEK(116)
]POKE H+1520, INT( start/256 )
]POKE H+1514, start - 256 * INT( start/256 )
```

where start is the desired starting line number

Cautions:

After-market text editors may introduce "extra" blanks into your programs. If these blanks occur between a GOTO/GOSUB/THEN/etc. and its corresponding linenumber reference then the "&R" option will not operate properly. The following procedure will write your program out to a text file "AP.ASC" and then read it back in through the standard APPLE editor, removing any non-standard characters:

```
]LOAD (your program)
]0?D$=CHR$(4):?D$"OPEN AP.ASC":?D$"WRITE AP.ASC":POKE 33,33:LIST
   1,:?D$"CLOSE  AP.ASC":NEW:END
]RUN
]EXEC AP.ASC
]SAVE (your cleaned-up program)
]TEXT
```

If you have a cassette system and load a large program, it is possible to over-write AOPT without receiving an error message (the disk system will tell you if your program goes past the current HIMEM pointer). AOPT will operate in an unpredictable fashion if this occurs.

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ADDENDUM

The program to be optimized must not contain a line number "0".

The optimized lines may be as long as 255 bytes each after optimization. Because "tokens" store internally as one byte and display as one or more bytes (for example, PRINT, GOTO, etc.), it is possible to create lines that appear to have more than 255 characters (when you LIST or print them). This may prohibit subsequent editing of an an optimized program. It is suggested that a copy of the original, un-optimized program be kept.